

CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

- 1 1. Viable, biologically substantially pure exfoliated
2 fecal colonocytes isolated at normal ambient
3 temperature.
- 1 2. The colonocytes of claim 1 bearing marker
2 indicative of specific gastrointestinal condition.
- 1 3. The colonocytes of claim 2 bearing marker indicative
2 of neoplastic transformation.
- 1 4. The colonocytes of claim 2 bearing marker indicative
2 of immune dysfunction. A
- 1 5. The colonocytes of claim 2 showing abnormality
2 indicative of non-neoplastic gastrointestinal
3 pathology.
- 1 6. The colonocytes of claim 1 being epithelial or
2 nonepithelial cells of lymphoid origin.
- 1 7. The colonocytes of claim 1 expressing a chimeric
2 immunoglobulin IgC.
- 1 8. The colonocytes of claim 1 expressing only IgA and
2 CFc.
- 1 9. The colonocytes of claim 1 expressing only CFc.
- 1 10. A transport medium for collecting a fecal sample,
2 comprising:
3 (a) a sufficient amount of an agent to sequester
4 proteases present in fecal matter;

5 (b) a sufficient amount of a mucolytic agent to
6 destroy mucus present in fecal matter; and
7 (c) a sufficient amount of a bacteriocidal agent
8 to inhibit bacterial activity in fecal matter.

1 11. The transport medium of claim 10, wherein said agent
2 for sequestering proteases is selected from the group
3 consisting of plasma proteins, gel forming polymers
4 and synthetic resins.

1 12. The transport medium of claim 11, wherein said plasma
2 proteins are bovine serum albumin, egg albumin or
3 human serum albumin. A

1 13. The transport medium of claim 12, wherein the
2 mucolytic agent is selected from the group consisting
3 of N-acetyl cysteine, β -mercaptoethanol, capsaicin,
4 dithiothreitol and guaiacol.

1 14. The transport medium of claim 13, wherein the
2 bacteriocidal agent is selected from the group
3 consisting of thimerosal, antibiotics and sodium
4 azide.

1 15. The transport medium of claim 14 being a solution,
2 comprising:

3 sodium bicarbonate: 350-500 mg;

4 bovine serum albumin: 2.5-15 gm;

5 N-acetyl cysteine: 250-500 mg;

6 Thimerosal: 100-300 mg; and

7 Puck's Saline G: 500 ml.

- 3 (a) obtaining biologically substantially pure
4 colonocytes; then
5 (b) reacting said colonocytes with a reagent to
6 detect the presence of a marker determinative of
7 cancer, occurrence of a positive reaction of said
8 colonocytes with said reagent being indicative of
9 the presence of cancer.
- 1 21. The method of claim 20, wherein said reagent is
2 fluorescently labelled antibodies or plant lectins
3 that generate a colored product.
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- 1 22. A method for determining mucosal immunity of GI
2 tract, comprising the step of comparing the number
3 of immunocoprocytes recovered from a subject whose
4 GI tract mucosal immunity is to be determined, with
5 the number of immunocoprocytes recovered from a
6 normal subject, a statistically significant
7 deviation from normal value being indicative of
8 the level of immune dysfunction.
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- 1 23. A method for diagnosing GI tract pathology,
2 comprising the step of determining the presence of
3 inflammatory cells in a stool sample of a subject
4 suspected of GI tract pathology, the presence of
5 inflammatory cells being indicative of GI tract
6 pathology. A
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- 1 24. The method of claim 23, wherein the presence of
2 inflammatory cells is determined by reacting the

3 cells with antibodies to CD45 or COX-2, the
4 cells that bind with said antibodies being
5 inflammatory cells. ✓

1 25. A method of producing antigen-specific monoclonal
2 antibodies, comprising the step of employing
3 antigen-specific immunocoprocytes as a clone in a
4 standard hybridoma technique and recovering antigen-
5 specific monoclonal antibodies.
